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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/810,298

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Stephen W. Day

7751-C

9305

7590

11/27/2007

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EXAMINER

VO, HAI

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/810,298	Applicant(s) DAY ET AL.	
	Examiner Hai Vo	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/10/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18, 19, 22-34, 55-58, 60-64 and 72-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 19, 22-34, 55-58, 60-64, 72-74 and 79 is/are allowed.
- 6) ☒ Claim(s) 75-78 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. All of the art rejections are considered moot in view of cancellation of claims 65-71.

New grounds of rejections are made in view of Ogle et al (US 6,191,414) and Mead et al (US 4,380,253).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 75-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tunis, III et al (US 5,904,972) in view of Ogle et al (US 6,191,414). Note that claims 75 and 76 do not require the unwound reinforcing spacer strips made of a low density cellular material. Tunis teaches a one-piece fiber reinforced core panel comprising plurality of foam cores connected to each other wherein each foam core is partially covered with a fibrous material 135 as shown in figures 16a-16b and 17a-17d. The fiber wrapped cores are separated by a reinforcing spacer strip 140 as shown in figure 14. The core can be a hollow tube. Tunis discloses that the fibers surrounding the core terminate some distance above and/or below the core (column 8, lines 1-10). Tunis does not teach the fibrous rovings helically wound around each foam core. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the existence of the layer of rovings helically wound onto the foam core. Ogle, however, teaches a composite form comprising an elongated body

provided with at least one pair of contra-helically wound reinforcing fibers to amplify the effect of pressure acting on the elongated body (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply at least one pair of contra-helically wound reinforcing fibers onto an elongated foam core motivated by the desire to amplify the effect of pressure acting on the foam core.

4. Even if “the unwound continuous reinforcing spacer strips are of low density cellular material” is incorporated into the claims, the amendment does not render the claim unobvious over the combined teachings of Tunis and Ogle. It would have been obvious to one having ordinary skill in the art at the time the invention was made to separate the continuous strips with helically wound around rovings by a unwound low density cellular foam strip because such an arrangement depends on the desired finished part and readily determined by those of skill in the art from a practical view of weight reduction and cost effectiveness.
5. Claims 76-78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tunis, III et al (US 5,904,972) in view of Mead et al (US 4,380,253). Note that claim 76 does not require the unwound reinforcing spacer strips made of a low density cellular material. Tunis teaches a one-piece fiber reinforced core panel comprising plurality of foam cores connected to each other wherein each foam core is partially covered with a fibrous material 135 as shown in figures 16a-16b and 17a-17d. The fiber wrapped cores are separated by a reinforcing spacer strip 140 as shown in figure 14. Tunis discloses that the fibers surrounding the core terminate some

distance above and/or below the core (column 8, lines 1-10). Tunis does not teach the fibrous rovings helically wound around each foam core. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the existence of the layer of rovings helically wound onto the foam trip. Mead, however, teaches a heat insulated hose comprising a layer of fibrous rovings (6A, 6B, 6C) continuously and helically surrounding each of the foam strips (7A, 7B, 7C) (abstract, figure 3, claim 1) to increase the adhesion of the fiber layer to the foam strips and thereby improving the strength of the hose. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a layer of fibrous rovings continuously and helically surrounding each foam core motivated by the desire to increase the adhesion of the fiber layer to the foam core, thereby improving the strength of the panel.

6. Even if “the unwound continuous reinforcing spacer strips are of low density cellular material” is added into the claim, the amendment does not render the claims unobvious over the combined teachings of Tunis and Mead. It would have been obvious to one having ordinary skill in the art at the time the invention was made to separate the continuous foam strips with helically wound around rovings by a unwound continuous foam strip because such an arrangement depends on the desired finished part and readily determined by those of skill in the art from a practical view of weight reduction and cost effectiveness.

Allowable Subject Matter

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7. Claims 18, 19, 22-34, 55-58, 60-64, 72-74 and 79 are allowed. No prior art was found to teach or fairly suggest a fiber reinforced core panel having a structure as recited in such the claims.

With regard to claims 72-74 and 79, since the fiber wrapped cores are not adhesively connected to each other prior to application of a vacuum and resin, it is technically impossible to apply one pair of contra-helically wound reinforcing fibers onto the elongated body formed from unconnected fiber wrapped cores wherein the elongated body is a strong composite structure with configurations with 4 and 5 foot spans and 8 inch depth.

8. The art rejections based on Day et al (US 6,740,381) is improper because Day is not prior art against the claimed invention.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from

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the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV

/Hai Vo/
Primary Examiner, Art Unit 1794